

A Quick Guide To Alzheimer's

[We store the memories in newly formed connections between brain cells. Remember, to really make the memory stick, you need to review the information. When we review, we run electrical stimulation over the connections that house the memory, making that connection stronger. If we don't review it, the brain figures this information is no longer needed and it is harder to remember the information. One way to think of this is that when a connection weakens, it rusts like old train tracks until it crumbles and makes it difficult, or in some cases impossible, to travel that road. But do we ever really forget something we have learned? This is not completely understood, but there is evidence that it is easier to relearn something you forgot than to learn something completely new. There is a lot of useless sensory information that we need to filter out in order to remember what is important. The prefrontal cortex, the part of your brain behind your forehead, needs to be engaged to focus on important information. A dose of newness releases the chemical dopamine in the brain, which can boost focus. After we focus, the brain continues to determine if information is worthy of remembering by briefly storing it in the waiting room of the brain, the hippocampus. Information waits there for about seven to twenty seconds while the rest of your brain determines if the information is worthwhile. We can remember more of the things we want to recall by simply focusing on the information for an uninterrupted seven to twenty seconds. This helps convince the brain the information is important and should not be thrown away. During this process you are storing and encoding information by creating new connections between your brain cells. Once information is worthy, it leaves the hippocampus and is encoded and stored all throughout the brain. By storing information in multiple parts of the brain, we have a greater chance of recalling it. For example, taking an extra few seconds to say the information out loud can save minutes struggling to recall information later. Now that you've learned about how your brain developed, how it interacts with other body systems, and how memory works, it's time to shift gears. We used to think dementia was something that came on suddenly and was out of our control. Imagine yourself at the beach. Those waves rolling in are the dementia symptoms. Like those waves beneath the surface, changes begin in the brain and body decades before we ever see a symptom. And many of us have witnessed firsthand the devastation of memory loss, which takes our loved ones from us too soon. But there's plenty of reason to be hopeful. So that's why, before we talk about more prevention, it's worthwhile to spend some time getting to know more about memory loss and dementia. They might also have problems with balance and coordination. In some cases, this reduced blood flow can be caused by small strokes. There can also be damage to the hippocampus whenever there is reduced blood flow to this region of the brain, no matter what the cause. The root cause needs to be addressed, diagnosed, and treated if possible. While the two conditions are frequently confused, Alzheimer's and dementia are not the same. Dementia is a set of symptoms that includes memory loss, having trouble making decisions, and personality changes that interfere with getting through the day.² Alzheimer's is a specific disease that causes dementia. However, there are many other known types of dementia. The box that follows breaks those down. Vascular dementia is a brain dysfunction caused by a lack of blood and oxygen to the brain. One of the most common causes is stroke. The symptoms of vascular dementia are often related to where in the brain](#)

the stroke occurs. One must have a healthy heart to have a sharp brain. Mixed dementia is a combination of two types of dementia. The most common combination is Alzheimer's disease and vascular dementia. Multiple causes of dementia can make the symptoms worse. A study done at the Rush Institute for Healthy Aging found that half of the brain autopsies of Alzheimer's patients also showed evidence of vascular dementia. In most cases, this secondary cause of dementia was not diagnosed during the subject's lifetime. It is important to determine if there are multiple root causes or mixed dementia present, as it can inform treatment. These deposits are different proteins than those found in Alzheimer's, but like Alzheimer's, they clump together and can cause dementia. Lewy body dementia can cause hallucinations, sleepiness, and difficulty with movement. There is a dire need for more research on Lewy body dementia and its causes and interventions. Parkinson's is another disease that causes the formation of trash in the brain. Initially, the waste disrupts the brain's ability to make dopamine, a crucial chemical involved in controlling movement and paying attention. This lack of dopamine is responsible for tremors present in Parkinson's disease. Depending on certain factors, including duration and age of onset, approximately 50 to 80 percent of Parkinson's cases progress to dementia. An emerging area of research is the connection between the gut and the brain in Parkinson's. In some cases, individuals with Parkinson's experience digestive symptoms years before developing any cognitive difficulties or tremors. The runny nose is a symptom, but the cause could be a cold, allergies, or a reaction to the temperature of the room. Likewise, dementia describes a group of symptoms, but the cause could be Alzheimer's, vascular dementia, another form of dementia, or something else entirely. There is no way to prevent or reverse dementia. In rare cases of genetic Alzheimer's and certain physical conditions like Lewy body dementia, this is true. Alzheimer's is a progressive disease that worsens over time. Alzheimer's was only definitively diagnosed after death, at autopsy. Now a combination of an evaluation by a physician, brain scans, and specific tests can provide a diagnosis. Since Alzheimer's takes years to develop, early diagnosis is important.